Iowa Open Feedlot

Guidance for Writing a Plan of Action

Purpose

This document is a guide for open feedlot operators and their consultants as they develop plans to bring an open feedlot into environmental compliance. It is to be used after, and only after, both in-house and on-site environmental assessments have been completed by the Iowa Department of Natural Resources or DNR. The in-house assessment is completed by DNR staff in Des Moines based on the information provided by the producer on the Environmental Priority Assessment form. The on-site assessment is conducted by a DNR environmental specialist. The initiation of the compliance plan begins with the on-site environmental assessment.

On-site assessment

During the on-site assessment the producer has the opportunity to share with the DNR environmental specialist the physical design, layout and workings of the feedlot. No engineer is required to be present at this time. The producer and specialist can discuss the in-house assessment to determine if the feedlot received the proper priority ranking.

Above: *Discussing your feedlot with a DNR specialist can lead to a high quality conceptual design that will meet state regulatory requirements.*

A tour of the feedlot will be conducted to evaluate site conditions and any preliminary designs. The specialist will discuss the requirements needed to bring the feedlot into compliance, the procedure for doing so and any temporary measures that can be completed to minimize risk of environmental contamination.

Operations fit into two categories:

1. **Permitted feedlots** (requires an operation permit)
   - more than 1000 animal units (equivalent to 1000 beef cattle or 700 mature dairy cattle)
   - between 301 and 1000 animal units with a stream running through the lot
   - between 301 and 1000 animal units with a direct man-made conveyance to water
   - as determined by the DNR

2. **Non-permitted:** all other feedlots

> At a minimum, all open feedlots are required to remove all settleable solids – slowing runoff from the open feedlot to allow solids to settle out from the runoff.

Non-permitted feedlots are not required to use an engineer and do not need to file a formal plan of action with the DNR.

On-site assessments are prioritized based on results of the in-house assessments. High-ranked feedlots will be assessed first, followed by medium- and then low-ranked lots. Producers can speed up the assessment of their lot by calling the environmental specialist to schedule an assessment.

Deadlines for permitted facilities

After the on-site assessment, the producer will receive the following timeline with deadlines for submitting information to the DNR:

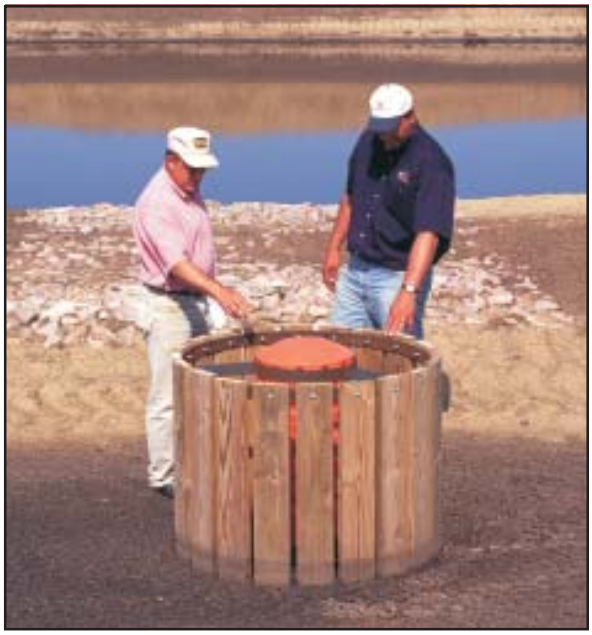
1. **45 days** to designate a licensed professional engineer registered in Iowa or Natural Resources Conservation Service (NRCS) personnel (an engineer is only required if a construction permit will be necessary)
2. **six months** to submit a plan of action (POA)
3. **12 months** to have the feedlot in compliance, or moving toward compliance using a phased approach
4. failure to submit the required information by the appropriate deadline will result in a notice of violation
5. failure to submit the required information within **45 days** of the notice of violation will result in an administrative order, which usually includes a penalty.

Plan of action contents

The POA for permitted operations shall include the following:

1. a completed application for an operation permit, also known as an National Pollutant Discharge Elimination System or NPDES permit,
2. a conceptual design for manure control structures,
3. and a proposed compliance schedule.

Above: *A typical settled open feedlot effluent basin.*



Above: *There are many options for solids settling – from terraces or existing site conditions to engineered systems. Regardless of size of the operation, solids settling is required for all open feedlots.*

Compliance schedule

It is important to note that the conceptual design must be approved by the DNR. Therefore, extensive preliminary design work prior to approval may create unnecessary expense. The compliance schedule must include dates to:

1. submit the engineering documents (plans, reports and specifications) prepared and sealed by a licensed professional engineer registered in Iowa,
2. submit a completed and signed construction permit application,
3. initiate construction, and
4. complete construction.

The construction dates may be multiple dates if a phased construction is proposed. The DNR will issue a draft operation permit after accepting the compliance schedule. The compliance schedule must be adhered to, and will be issued in a separate document. After a mandatory 30-day public comment period, a final NPDES operation permit will be issued, dependent on comments received.

Conventional designs

For operations that must have a permit, the manure settled effluent is then released from the solids settling facility and collected in a runoff control basin (now referred to as a settled open feedlot effluent basin). One of the five runoff control systems found in Appendix A of Chapter 65 of the Iowa Administrative Code should be chosen for conventional designs. These options vary in the volume of storage and the frequency of effluent application. The effluent is stored in the basin until land applied as designated in the management plan of the designed system.

Alternative technologies (AT)

Some feedlot operators who are required to have operation permits may be interested in effluent control without the maintenance of a runoff control basin. Such systems would not contain the effluent but rather release it for other treatment. These systems are still in the design and evaluation stages. An initial assessment to determine whether a feedlot is an appropriate candidate for use of AT can be conducted by personnel from the DNR, Iowa State University, NRCS or a licensed professional engineer using the DNR fact sheet: *"Criteria: Alternative Technologies for Open Feedlots."* If the feedlot meets these minimum criteria and the consulting engineer is confident a system appropriate for the site can be designed, constructed and operated to prevent environmental impact, such a conceptual design can be included in the POA.

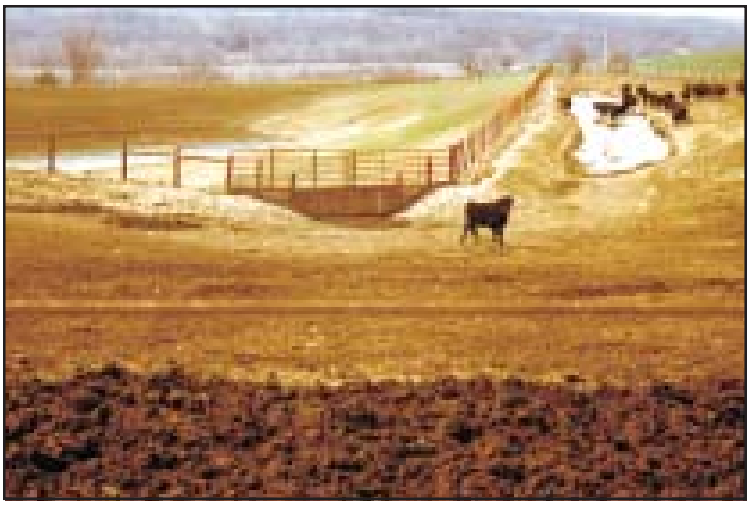
The DNR and Iowa State University will evaluate the proposal and use a computer model to predict effectiveness of the system. If it is determined the conceptual design is not expected to meet the minimum performance standards, a conventional control system will be required.

Above: *Alternative technologies are best suited for open feedlots that have a low ranking for environmental risk, and are located on gently sloping, well-drained soils far from the nearest stream.*

If the design is considered adequate to protect the environment, a draft operation permit will be issued, including a permit condition of modifying the alternative system or replacement with a conventional system if monitoring indicates equivalent performance is not being met. The design engineer may then begin development of an engineered plan, and must certify the proposed alternative system can provide equivalent performance to a conventional design. The producer must agree to a monitoring plan for at least two years in order to evaluate performance of the system and may bear the financial responsibility of such monitoring. In addition, long-term monitoring will be required as part of the NPDES permit.

Funding

The DNR is aware of the financial commitments required for feedlots to come into compliance and is willing to work with producers on construction schedules that allow them to use federal environmental quality incentives program (EQIP) cost-share funds from NRCS or state revolving fund loans. However, the availability of funds and timing of funding announcements are not appropriate rationale for delaying the timeline for a feedlot to meet compliance requirements.



Above: *One type of solids settling system leading to a settled open feedlot effluent basin.*

Information

There are numerous sources of information about the Iowa open feedlot plan. The following web sites provide much of that information:

- DNR: www.iowadnr.com under *animal feeding operations* for compliance flow chart, informational brochures, state revolving funds, etc
- IMMAG: http://extension.agron.iastate.edu/immag/ for a list of service providers, frequently asked questions, etc.
- NRCS: www.ia.nrcs.usda.gov/programs/stateeqip.html for information on EQIP, NRCS personnel, etc.

Assistance

It is critically important that lack of information or misinformation not delay a feedlot from coming into environmental compliance. If you have questions, contact the DNR at:

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